

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Filing Date

March 25, 2004

First Named Inventor

Lee, Tzu-Chen

Art Unit

2811

Examiner Name

Hung K. Vu

Attorney Case Number

58994US002

(Use as many sheets as necessary)

Page 1 of 4



## U.S. Patent Documents

Exam. Init.*	Cite No.	Document Number	Publication Date or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Doc. Number-(Kind Code if Known)			
<u>V<sub>u</sub></u>	A1	US- 2003/0105365 A1	06/05/2003	Smith et al.	
<u>V<sub>u</sub></u>	A2	US- 6,114,088	09/05/2000	Wolk et al.	
	A3	US-			
	A4	US-			
	A5	US-			
	A6	US-			
	A7	US-			
	A8	US-			
	A9	US-			
	A10	US-			
	A11	US-			

## Foreign Patent Documents

Exam. Init.*	Cite No.	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Translation (Check if yes)
		Ctry. Code	Number-Kind Code (if known)				
<u>V<sub>u</sub></u>	B1	EP	1 017 118 A2	07/05/2000	—	—	
<u>V<sub>u</sub></u>	B2	WO	00/17911 A1	03/30/2000	—	—	
	B3						
	B4						
	B5						
	B6						
	B7						

## OTHER DOCUMENTS

Exam. Init.*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation (Check if yes)
<u>V<sub>u</sub></u>	C1	E. A. Silinsh and V. Capek, "Organic Molecular Crystals" AIP Press, New York, 1994.	

\*Examiner:

HUNG VU

Date Considered:

08/17/05

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Information Disclosure Statement)

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

Use as many sheets as necessary)

Page 2 of 4

**OTHER DOCUMENTS**

Exam. Init.*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation (Check if yes)
✓	C2	Y. Shirota, T. Kobata, and N. Noma, "Starburst Molecules For Amorphous Molecular Materials, 4,4',4"-tris(N,N-diphenylamino)triphenylamine and 4,4'4"-Tris(N-(3-methylphenyl)-N-phenylamino)triphenylamine", Chemistry Letters, The Chemical Society of Japan, Vol. 7, pp. 1145 - 1148, 1989.	
	C3	Yasuhiko Shirota, "Organic Materials for Electronic and Optoelectronic Devices", Journal of Materials Chemistry, Vol. 10, pp. 1 - 25, 2000.	
	C4	M. Pfeiffer, A. Beyer, T. Frit, and K. Leo, "A Controlled Doping Of Phthalocyanine Layers By Cosublimation With Acceptor Molecules: A Systematic Seebeck And Conductivity Study", Applied Physics Letters, Vol. 73, No. 22, pp. 3202 - 3204, November 30, 1998.	
	C5	X. Zhou, J. Blochwitz, M. Pfeiffer, A. Nollau, T. Fritz, and K. Leo, "Enhanced Hole Injection Into Amorphous Hole-Transport Layers Of Organic Light-Emitting Diodes Using Controlled P-Type Doping." Advanced Functional Materials, Vol. 11, No.4, pp. 310 - 314, August 2001	
	C6	X. Zhou, M. Pfeiffer, J. Blochwitz, A. Werner, A. Nollau, T. Fritz, and K. Leo, "Very-Low-Operating-Voltage Organic Light-Emitting Diodes Using A P-Doped Amorphous Hole Injection Layer." Applied Physics Letters, Vol. 78, No. 4, pp. 410 - 412, January 22, 2001.	
	C7	S. M. Sze, Physics of Semiconduct of Devices, Second Edition, John Wiley & Sons, Inc. 1981.	
	C8	Y. S. Lee, J. H. Park, J. S. Choi, "Electrical Characteristics Of Pentacene-Based Schottky Diodes", Optical Materials, Vol. 21, pp. 433 - 437, 2002.	
✓	C9	J. Blochwitz, M. Pfeiffer, T. Fritz, K. Leo, "Low Voltage Organic Light Emitting Diodes Featuring Doped Phthalocyanine As Hole Transport Material", Applied Physics Letters, Vol. 73, No. 6, pp. 729 - 731, August 10, 1998.	

\*Examiner: HUNG VU

Date Considered:

08/17/05

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Information Disclosure Statement)

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Use as many sheets as necessary)

Page 3 of 4

## OTHER DOCUMENTS

Exam. Init.*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation (Check if yes)
✓	C10	J. Dreschel, M. Pfeiffer, X. Zhou, A. Nollau, K. Leo, "Organic Mip-Diodes By p-Doping Of Amorphous Wide-Gap Semiconductors: CV and Impedance Spectroscopy", Synthetic Metals, Vol. 127, pp. 201 - 205, March 2002.	
	C11	A. R. Brown, D. M. de Leeuw, E. E. Havinga, A. Pomp, "A Universal Relation Between Conductivity And Field-Effect Mobility In Doped Amorphous Organic Semiconductors", Synthetic Metals, Vol. 68, pp. 65 - 70, 1994.	
	C12	C. P. Jarrett, R. H. Friend, A. R. Brown, and D. M. de Leeuw, "Field Effect Measurements In Doped Conjugated Polymer Films: Assessment Of Charge Carrier Mobilities", Journal of Applied Physics, Vol. 77, No. 12, pp. 6289 - 6294, June 15, 1995.	
	C13	J. Paloheimo, P. Kulvalainen, H. Stubb, E. Vuorimaa, and P. Yli-Lahti, Appl. Phys. Lett., "Molecular Field-Effect Transistors Using Conducting Polymer Langmuir-Blodgett Films", Vol. 56, No. 12, pp. 1157 - 1159, March 19, 1990.	
	C14	K. Hoshimono, S. Fujimori, S. Fujita, and S. Fujita, "Semiconductor-Like Carrier Conduction and Its Field-Effect Mobility in Metal-Doped C <sub>60</sub> Thin Films", Japanese Journal of Applied. Physics, Vol. 32, No. 8A, pp. L1070 - L1073, August 1, 1993.	
	C15	A. Nollau, M. Pfeiffer, T. Fritz, and K. Leo. Journal of Applied Physics, "Controlled n-Type Of Doping Of A Molecular Organic Semiconductor: Naphthalenetetracarboxylic Dianhydride (NTCDA) Doped With bis(ethylenedithio)-tetrathiafulvalene (BEDT-TTF)", Vol. 87, No. 9, pp. 4340 - 4343, May 1, 2000.	
✓	C16	A. Werner, F. Li, K. Harada, M. Pfeiffer, T. Fritz, K. Leo, and S. Machill, "n-Type Doping of Organic Thin Films Using Cationic Dyes", Advanced Functional Materials, Vol. 14, No. 3, pp. 255 - 260, March 2004.	

\*Examiner:

HUNG VU

Date Considered:

08/17/05

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

OCT 25 2004  
PATENT & TRADEMARK C.

Use as many sheets as necessary

Page 4 of 4

Application Number	10/809135
Filing Date	March 25, 2004
First Named Inventor	Lee, Tzu-Chen
Art Unit	2811
Examiner Name	Hung K. Vu
Attorney Case Number	58994US002

## OTHER DOCUMENTS

Exam. Init.*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation (Check if yes)
<u>Vu</u>	C17	Z. Bao, A. J. Lovinger, and J. Brown, "New Air-Stable <i>n</i> -Channel Organic Thin Film Transistors", Journal of the American Chemical Society, Vol. 120, No. 1, pp. 207 – 208, 1998.	
	C18	P. R. L. Malenfant, C. D. Dimitrakopoulos, J. Gelorme, L. L. Kosbar, and T. O. Graham, "N-Type Organic Thin-Film Transistor With High Field-Effect Mobility Based On A N,N'-dialkyl-3,4,9,10-perylene Tetracarboxylic Diimide Derivative", Applied Physics Letters., Vol. 80, No. 14, pp. 2517 – 2519, April 8, 2002.	
	C19	U.S.S.N. 10/620027 filed July 15, 2003, entitled "Bis(2-Acenyl)Acetylene Semiconductors"	
<u>Vu</u>	C20	U.S.S.N. 10/641730, filed August 15, 2003, entitled "Acene-Thiophene Semiconductors"	
	C21		

\*Examiner:

HUNG JU

Date Considered:

08/17/05

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Use as many sheets as necessary)

Page 1 of 1

Application Number

10/809135

Filing Date

March 25, 2004

First Named Inventor

Lee, Tzu-Chen

Art Unit

2811

Examiner Name

VU, Hung K.

Attorney Case Number

58994US002

## U.S. Patent Documents

Exam. Init.*	Cite No.	Document Number	Publication Date or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Doc. Number-(Kind Code if Known)			
	A1	US-			
	A2	US-			
	A3	US-			
	A4	US-			
	A5	US-			

## Foreign Patent Documents

Exam. Init.*	Cite No.	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Translation (Check if yes)
		Ctry. Code	Number-KindCode (If known)				
	B1						
	B2						

## OTHER DOCUMENTS

Exam. Init.*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation (Check if yes)
✓	C1	PFEIFFER, "Doped Organic Semiconductors: Physics and Application in Light Emitting Diodes", Organic Electronics, (2003), pp. 89-103, Vol. 4, Elsevier B. V.	
	C2	BLOCHWITZ, "Non-Polymeric OLEDs With a Doped Amorphous Hole Transport Layer and Operating Voltages Down to 3.2 V to Achieve 100 cd/m <sup>2</sup> ", Synthetic Metals, (2002), pp. 169-173, Vol. 127, Elsevier Science B. V.	
	C3	ROMAN, "Polymer Diodes With High Rectification", Applied Physics Letters, (November 29, 1999), pp. 3557-3559, Vol. 75, No. 22, American Institute of Physics	
	C4	OUYANG, "On the Mechanism of Conductivity Enhancement in Poly(3,4-ethylenedioxythiophene):Poly(styrene sulfonate) Film Through Solvent Treatment", Polymer, (2004), pp. 8443-8450, Vol. 45	
✓	C5	IONESCU-ZANETTI, "Semiconductive Polymer Blends: Correlating Structure With Transport Properties at the Nanoscale", Advanced Materials, (March 5, 2004), pp. 385-389, Vol. 16, No. 5, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim	

\*Examiner:

HUNG JU

Date Considered:

08/17/05

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.